

We Claim:

1. An isolated nucleotide sequence which is selected from the

group

AAATTGCTTT	GCAGTGAAT	CCTGCTCAT	GTTAGCAGAA	AACAACATCA	50
TGGGTAACTC	TGAAGCTTTT	GTCAAAGCTT	CTACTGATTC	TAATTTCAAG	100
CTGAGGCTCT	GGCTAAGGGT	TCCAAAGGTT	TTGAAGCAGA	TTTCCATTCA	150
GAAATTGTTT	AAGGTTGGAG	GAGATGAAAC	AAATAAAACA	TTTTATTAT	200
CTATTGCGTG	CATTGCAAAG	CATAACAGTG	TTGAGACAGC	TTTAAACATT	250
ACTGTTATTT	GCAAGCATCA	GCTOCCAATT	CGTAAATGTA	AAACTOCTTT	300
TGAATTATCA	ATGATGTTTT	CTGATTTAAA	GGAGCCTTAC	AACATTATTC	350
ATGATGCTTC	ATATCCCGAA	AGGATTGTTT	ATGCTCTGCT	TGAAACTCAC	400
ACATGTTTTC	CACAAGTTCT	TTGCAACAAC	TTGCAAGAAG	ATGTGATCAT	450
CTACAGCTTG	AACAACCATG	AGCTAACCTC	TGGAAAGTTA	GATTTAGGTG	500
AAATAAGTTT	GAATTACAA	GAAGACGCCT	ACAAAAGGAA	ATATTTCCCT	550
TCAAAAACAC	TTGAATGTC	TCCATCTAAC	ATACAAACTA	TGCTTTATTT	600
AGACAGCATC	CAAATCCCTT	CCTGGAAGAT	AGACTTTGCC	AGGGGAGAAA	650
TTAAAAATTC	TCCACAATCT	ATTTTCACTG	CAAATCTTTT	GTAAATCTTT	700
GATTTAAGCG	GGATTAAAAA	GAAAGAATCT	AAGATTAAAG	AAGCATATGC	750
TTTCAAGATCA	AAATGATCTT	GCTGCTGCTA	GCTTTTCTTA	ATTATGTTAT	800
GTTTATTTTC	TTTCTTTACT	TATAATTTAT	TTTCTGTTTG	TCATTCTTTT	850
CAAATTCCTC	CTGTCTAGTA	GAAACCATAA	AAACAAAAAT	AAAAATAAAA	900
TAAATCAAAA	ATAAAATAAA	AATCAAAAAA	TGAAATAAAA	GCAACAAAAA	950
AATTAAAAAA	CAAAAAACCA	AAAAAGATCC	CGAAAGGACA	ATTTTGGCCA	1000
AAATTGGGGT	TTGTTTTTGT	TTTTTGTGTT	TTTGTTTTTT	GTTTTTATTT	1050
TTATTTTAT	TTTTATTTTT	ATTTTATTTT	ATTTTATGTT	TTTGTGTTTT	1100
TTGTATTTTT	GTTATTTATT	AAGCACAACA	CACAGAAAGCA	AACCTTAAT	1150
TAAACACACT	TATTTAAAA	TAAACACACT	AAGCAAGCACA	AACAATAAA	1200
GATAAAGAAA	GCCTTATATA	TTTATAGGCT	TTTTTATAAT	TTAACCTTACA	1250
GCTGCTTTTA	AGCAAGTTCT	GTTGAGTTTTG	CCTGTTTTTT	AACCCCAAAC	1300
ATTTTATAGA	ACTTGTTAAG	GGTTTCACTG	TAATGTTCCA	TAGCAATACT	1350
TOCTTTAGCA	TTAGGATTGC	TGGAGCTAAG	TATAGCAGCA	TACTCTTTCC	1400
CCCTCTTCAC	CTGATCTTCA	TTTATTTCAA	ATGCTTTTCT	TTTCAGCACA	1450
GTGCAAACTT	TTCTTAAGGC	TTCCCTGGTG	TCATACTTCT	TTGGGTGCGAT	1500
CCCGAGATCC	TTGTATTTTG	CATCCTGATA	TATAGCCAAG	ACAACACTGA	1550
TCATCTCAAA	GCTATCAACT	GAAGCAATAA	GAGGTAAAGCT	ACCTCCAGC	1600
ATTATGGCAA	GCCTCACAGA	CTTTGCATCA	TCAAGAGGTA	ATCCATAGGC	1650
TTGAATCAAA	GGGTGGGAAG	CAATCTTAGA	TTTGATAGTA	TTGAGATTCT	1700
CAGAATTCC	1709;				
TAAACACACT	AAGCAAGCAC	AAACAATAAA	GATAAAGAAA	GCCTTATATA	50
TTTATAGGCT	TTTTTATAAT	TTAACCTTACA	GCTGCTTTTA	AGCAAGTTCT	100
GTTGAGTTTTG	CCTGTTTTTT	AACCCCAAAC	ATTTTATAGA	ACTTGTTAAG	150
GGTTTCACTG	TAATGTTCCA	TAGCAATACT	TOCTTTAGCA	TTAGGATTGC	200
TGGAGCTAAG	TATAGCAGCA	TACTCTTTCC	CCCTCTTCAC	CTGATCTTCA	250
TTTATTTCAA	ATGCTTTTCT	TTTCAGCACA	GTGCAAACTT	TTCTTAAGGC	300
TTCCCTGGTG	TCATACTTCT	TTGGGTGCGAT	CCCGAGATCC	TTGTATTTTG	350

CATCTGATA TATAGCCAAG ACAACACIGA TCATCTCAAA GCTATCAACT 400
 GAAGCAATAA GAGGTAAGGT ACCTCCAGC ATTATGGCAA GOCTACAGA 450
 CTCTGCATCA TCAAGAGGTA ATCCATAGGC TTGACTCAA GGGTGGGAAG 500
 CAATGTTAGA TTGATAGTA TTGAGATTCT CAGAATTCC AGTTTCTCA 550
 ACAAGGCTGA CCGTATGAA GCTATCAAGC CTCTGAAGG TCATGTCAGT 600
 GGGTCCAATC CTGCTGAAG TTTCTTTTAT GGTAATTTTA CCAAAGTAA 650
 AATCGGTTTG CTAAATAACG TTCAATTATG TCTGACGATT CTTCAGGAAT 700
 GTCAGACATG AAATAATGCT CATCTTTTTG ATCTGGTCAA GGTTTTCCAG 750
 ACAAAGTGC TGAAGITGA ATGCTACCAG ATTCTGATCT TCTCAAAC 800
 CAAGGTCTTT GCGTGTGTC AACAAAGCAA CAATGCTTC CTAGTGAGC 850
 TTAACAT 858;
 AAATGCTCTT GCAGTGAAT CTCGTCTCAT GTTAGCAGAA AACACATCA 50
 TGCTAACTC TCAAGCTTTT GTCAAAGCTT CTACTGATTC TAATTTCAG 100
 CTGAGGCTCT GCTAAGGGT TCAAAGGTT TTGAAGCAGA TTTCCATCA 150
 GAAATTGTTT AAGGTTGCAG GAGATGAAAC AAATAAAACA TTTTATTAT 200
 CTATTGCTG CATTCAAAC CATAACAGTG TTGAGACAGC TTTAAACATT 250
 ACTGTTATTT GCAAGCATCA GCTCCCAATT CGTAAATGTA AAATCTCTTT 300
 TGAATTATCA ATGATGTTTT CTGATTTAAA GGAGCTTAC AACATTATTC 350
 ATGATCTTTC ATATCCCAA AGGATGTTTC ATGCTCTGCT TGAAACTCAC 400
 ACATCTTTTG CACAAGTTCT TTGCAACAAC TTGCAAGAAG ATGTGATCAT 450
 CTACACCTTG AACAAACATG AGCTAACTCC TGGAAAGTTA GATTTAGGTG 500
 AAATAACTTT GAATTACAAT GAAGACGCT ACAAAGGAA ATATTTCCTT 550
 TCAAAACAC TTGAATGCT TCCATCTAAC ATACAACTA TGCTTTATTT 600
 AGACAGCATC CAAATCCCTT CCTGGAAGAT AGACTTTGCC AGGGGAGAAA 650
 TTAAATTTTC TCCACAATCT ATTTGAGTTG CAAATCTTT GTTAAATCTT 700
 GATTTAAGCG GGATTAAAA GAAAGATCT AAGATTAGG AAGCATATGC 750
 TTCAGGATCA AAATGATCTT GCTGTGTCCA GCTTTTTCTA ATTATGTTAT 800
 GTTATTTTTC TTTCTTACT TATAATTATT TTTCTGTTTG TCATTTCTTT 850
 CAAATCTCTC CTGCTAGTA GAAACCATAA AAACAAAAAT AAAAATAAAA 900
 TAAATCAAA ATAAAAATAA AATCAAAAAA TGAAATAAAA GCAACAAAAA 950
 AATTAAAAAA CAAAAACCA AAAAAGATCC CGAAAGGACA ATTTTGGOCA 1000
 AATTGCGGT TTGTTTTGT TTTTGTGTTT TTTGTTTTT GTTTTATTT 1050
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 TTGTTATTTT GTTATTTATT AAGCACAACA CACAGAAAGC AAATTTAAT 1150
 TAAACACACT TATTTAAAT TTAACACACT AAGCAAGCAC AAACAATAAA 1200
 GATAAAGAAA GCTTTATATA TTTATAGGCT TTTTATAAT TTAATTACA 1250
 GCTGCTTTTA AGCAAGTTCT GIGAGTTTG CCTGTTTTT AACCCAAAC 1300
 ATTTCAATGA ACTGTGTAAG GGTTTCACTG TAATGTTCCA TAGCAATACT 1350
 TCTTTAGCA TTAGGATTGC TGGAGCTAAG TATAGCAGCA TACTCTTCC 1400
 CCTCTTCAC CTGATCTTCA TTCAATTCAA ATGCTTTTCT TTTGAGACA 1450
 GTGCAAACTT TTCTAAGGC TTCCCTGGTG TCATCTTCT TTGGGTCCAT 1500
 CCGAGATCC TTGTTATTTG CATCCTGATA TATAGCCAAG ACAACACTGA 1550
 TCATCTCAAA GCTATCAACT GAAGCAATAA GAGGTAAGCT ACCTCCAGC 1600
 ATTATGGCAA GOCTACAGA CTTTGCATCA TCAAGAGGTA ATCCATAGGC 1650

TTGACTCAA GGGTGGGAAG CAATCTTAGA TTTGATAGTA TTGAGATTCT 1700
 CAGAATTCC AGTTTCCTCA ACAAGCCTGA COCTGATCAA GCTATCAAGC 1750
 CTTCTGAAGG TCATGTCAGT GGCTCCAATC CTGTCTGAAG TTTTCTTTAT 1800
 GGTAAATTTA CCAAAAGTAA AATCGCTTTG CTAAATAACC TTCATTATGC 1850
 TGTGACGATT CTTCAGGAAT GTCAGACATG AAATAATGCT CATCTTTTIG 1900
 ATGTGGTCAA GGTTTTCCAG ACAAAAAGTC TTGAAGTTGA ATGCTACCAG 1950
 ATTCTGATCT TCTTCAAACT CAAGGCTTTT GCCTTGTGTC AACAAAGCAA 2000
 CAATGCTTTC CTTAGTGAGC TTAACCAT 2028; end
 AGAGCAATTG GGTCATTTTT TATTTCTAAAT CGAAOCTCAA CTAGCAAATC 50
 TCAGAACTGT AATAAGCACA AGAGCACAAG AGCCACAATG TCATCAGGTG 100
 TTTATGAATC CATCATTCAG ACAAAGGCTT CAGTTTGGGG ATCGACAGCA 150
 TCTGGTAAAT CCATCGTGGG TTTCTTACTGG ATTTATGAGT TTCCAACITG 200
 TTCTCCACTG GTTCAAACTC AGTTGTACTC TGATTTCGAG AGCAAAAGTA 250
 GCTTGGGCTA CACTTCAAAA ATTGGTGATA TTCTTGTCTG AGAGGAGGAA 300
 ATTTTATCTC AGAAOCTTCA TATCCAGTG TTTGATGATA TTGATTTCAG 350
 CATGAATATC AATGATTTCT TCTTGGCAAT TTCTGTTTGT TOCAACACAG 400
 TTAACACCAA TGGAGTGAAG CATCAGGGTC ATCTTAAAGT TCTTTCTCTT 450
 GOCGAATTGC ATCCCTTTGA AOCCTGTGATG AGCAGGTCAG AGATTGCTAG 500
 CAGATTCCGG CTCCAAGAAG AAGATATAAT TOCTGATGAC AAATATATAT 550
 CTGCTGCTAA CAAGGGATCT CACTCTGTG TCAAAGAACA TACTTACAAA 600
 GTCGAAATGA GOCACAATCA GGCCTTTAGG AAAGTGAATG TTCTTTCTCC 650
 TAACAGAAAT GTTCATGAGT GCTCTGATAG TTTCAAACCA AATTTCACCC 700
 AGATCGAAAG TAATAACAGA ACTGTAAATT CTTTTCAGT CAAATCTTTG 750
 CTGATGGCTA CAGAAAACAA CATTATGCT AACTCTCAAG CTTTGTGTTA 800
 AGCTTCTACT GATTCTCAT TTAAGTTGAG CCTTGGCTG AGAATTCCAA 850
 AAGTTTIGAA GCAAATAGCC ATACAGAASC TCTTCAAGTT TGCAGGAGAC 900
 GAAACCGTAA AAAGTTTCTA TTGTGCTATT GCATGCATCC CAAATCACAA 950
 CAGTGTGGAA ACAGCTTTAA ATGTCACTGT TATATGTAGA CATCAGCTTC 1000
 CAATCCCTAA GTCCAAAGCT CCTTTTGAAT TATCAATGAT TTTCTCCGAT 1050
 CTGAAAGAGC CTTACAACAC TGTCATGAT CCTTCATATC CTCAAAGGAT 1100
 TGTTCATGCT TTGCTTGAGA CTCACACTTC CTTTGCACAA GTTCTCTGCA 1150
 ACAAGCTGCA AGAAGATGTG ATCATATATA CTATAAACAG COCTGAACCTA 1200
 ACCCCAGCTA AGCTGGATCT AGGTGAAAGA AOCTTGAACCT ACAGTGAAGA 1250
 TGCTTGAAG AAGAAGTATT TTCTTTCAA AACACTCGAA TGCTTGCAG 1300
 TAAATGTGCA GACTATGTCT TATTTGGATA GCATOCAGT TCCTTCATGG 1350
 AAGATAGACT TTGCCAGAGG AGAGATCAGA ATCTOCCCTC AATCTACTCC 1400
 TATTGCAAGA TCTTTGCTCA AGCTGGATTT GAGCAAGATC AAGGAAAAGA 1450
 AGTCTTIGAC TTGGGAAACA TCAGCTATG ATCTAGAATA AAAGTGGCTC 1500
 ATACTACTCT AAGTAGTATT TGTCAACTTG CTATCCTTT ATGTGTGTTA 1550
 TTTCTTTTAA ATCTAAAGTA AGTTAGATTC AAGTAGTTTA GTATGCTATA 1600
 GCATTATTAC AAAAAATACA AAAAAATACA AAAAAATACA AAAAAATATA 1650
 AAAACCCAAA AAGATCCCAA AAGGGACGAT TTGGTTGATT TACTCTGTTT 1700
 TAGGCTTATC TAAGCTGCTT TTGTTTGAGC AAAATAACAT TGTAACATGC 1750
 AATAACTGGA ATTTAAAGTC CTAAAAGAAG TTTCAAAGGA CAGCTTAGCC 1800

AAAATTGGTT TTTGTTTTTG TTTTITTTGTT TTTTGTTTTT TTGTTTTIATT 1850
 TTTATTTTTT GTTATTTTTT TGTTTTTGTT ATTTTITATT TTATTTTATT 1900
 TTCTTTTATT TTATTTATAT ATATATCAAA CACAATCCAC ACAAATAATT 1950
 TTAATTTCAA ACATTTTACT GATTTAACAC ACTTAGCCIG ACTTTATCAC 2000
 ACTTAACAGC CTTAGTTAGG CTTTAACACA CTGAACIGAA TTAAACACA 2050
 CTTAGTATTA TGCATGCTTT AATTAAACACA CTTTAATAAT ATGCATCTCT 2100
 GAATCAGCCT TAAAGAAGCT TTTATGCAAC ACCAGCAATC TTGGCCTCTT 2150
 TCTTAACCTC AAACATTTCA TAGAATTTGT CAAGATTATC ACTGTAAATAG 2200
 TCCATAGCAA TGCCTTCCCT AGCATTGGGA TTGCAAGAAC TAAGTATCTT 2250
 GGCATATTCT TTCCCTTTGT TTATCTGIGC ATCATCCATT GTAAATCCCT 2300
 TGCTTTTAAG CACTGTGCAA ACCTTCCCCA GAGCTTCCCT AGTGTGTGAC 2350
 TTAGTTGGTT CAATCCCTAA CTCCTTGTAC TTTCATCTT GATATATGGC 2400
 AAGAACAACA CTGATCATCT CGAAGCTGTC AACAGAAGCA ATGAGAGGGA 2450
 TAGTACCTCC AAGCATTTATA GCAAGTCTCA CAGATTTTGC ATCTGCCAGA 2500
 GGCAGCCCGT AAGCTTGGAC CAAAGGGTGG GAGGCAATTT TTGCTTTGAT 2550
 AATAGCAAGA TTCTCATTTT TTGCAGTCTC TTCTATGAGC TTCACTCTTA 2600
 TCATGCTATC AAGCCTCCTG AAAGTCATAT CCTTAGCTCC AACTCTTTCA 2650
 GAATTTTCTT TTATOGTGAC CTTACCAAAA GTAAATCAC TTTGGTTTAC 2700
 AACTTTTATA ATGCCTTGGC GATTCTTCAA GAAAGTCAA CATGAAGIGA 2750
 TACTCATTTT CTTAATCAGG TCAAGATTTT CCTGACAGAA AGTCTTAAAG 2800
 TTGAATGCGA CCTGGTTCTG GTCTTCTTCA AACTCAACAT CTGCAGATTG 2850
 AGTTAAAAGA GAGACAATGT TTTCTTTTGT GAGCTTGACC TTAGACATGG 2900
 TGGCAGTTTA GATCTAGACC TTCTCTGAGA GATAAGATTC AAGGTGAGAA 2950
 AGTGCAACAC TGTAGACCGC GGTCGTACT TATCCTGTTA ATGTGATGAT 3000
 TTGTATTGCT GAGTATTAGG TTTTGAATA AAATTGACAC AATTGCTCT 3049

2. A plant susceptible to infection by *Tospoviruses* which has a transgene inserted into its genome to render it resistant to infection by *Tospoviruses*, said transgene being selected from the group consisting of the nucleoprotein gene of TSWV-BL, TSWV-10W, INSV-LI, TSWV-B, a *Tospovirus*, said transgene consisting of partial or full length nucleoprotein gene sequences from TSWV-BL, TSWV-10W, TSWV-B, INSV-Beg and INSV-IL, the translatable or untranslatable sequences of said nucleoprotein gene sequences, and the sense or antisense sequences of said nucleoprotein gene sequences.

3. A method for providing a host plant with resistance to infection by *Tospoviruses* which comprises inserting a transgene into the host plant which gene is selected from the nucleoprotein gene of TSWV-BL, TSWV-10W, INSV-Beg, INSV-LI, TSWV-B, or mixtures of nucleotide sequences taken from the nucleoprotein gene.

ADD A7